

ABSTRACT OF THE DISCLOSURE

A space 4 constituted by a sound absorption panel section 1 and active sound absorption control system section 2 between the inner and outer walls of a nacelle forming an engine intake/exhaust duct is utilized as an acoustic resonance field and as a sound absorption field by sticking a porous sound absorption material 14 onto the inside wall surface of the space. The panel section 1 defines a sound absorption space by means of surface plate 6 made of a perforated plate and wire mesh materials plate, panel construction side plate 9 and back sheet plate 13 having porous sound absorption material stuck thereon; and a movement-controlled reflective plate 8, that is capable of movement/rotation control with respect to said perforated plate, is provided within this sound absorption space. Movement of the reflective plate 8 is controlled utilizing the adaptive feed forward control method by means of the output from an active sound absorption control system section 2; thus fan noise and/or turbine noise emitted from a turbofan engine I.E. engine noise over a wide frequency range from low-frequency noise to higher harmonics of fan blade passing frequency tone is actively reduced in a manner responsive to changes of engine noise source character.